

Remarks

Reconsideration of this Application is respectfully requested.

Claims 1-4 and 7-11 are pending in the application, with claims 1, 7, and 8 being the independent claims.

With respect to this Application, Applicant hereby rescinds any disclaimer of claim scope made in the parent application or any predecessor or related application. The Examiner is advised that any previous disclaimer of claim scope, if any, and the references that it was made to allegedly avoid, may need to be revisited. Nor should any previous disclaimer of claim scope, if any, in this Application be read back into any predecessor or related application.

Based on the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1, 7, and 8

Claims 1, 7, and 8 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over United States Patent No. 5,726,974 to Kunieda et al. (herein "Kunieda") in view of United States Patent Publication No. 2001/0001759 to Holden et al. (herein "Holden"). Applicant respectfully traverses the rejection and provides the following arguments to support patentability.

The United States Supreme Court, in KSR International vs. Teleflex, Inc., 550 U.S. 398 (2007), ruled on the requirements for obviousness analysis under 35 U.S.C.

103(a). The M.P.E.P. provides guidelines for supporting a prima facie obviousness rejection based on combining references. According to the M.P.E.P.,

[t]o reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

(1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference.

M.P.E.P. §2143.A (emphasis added).

As to be discussed below, Kunieda does not teach or suggest at least the features of *"measuring image rejection and DC offset rejection of the filtered signal"*, *"the filtering, measuring and adjusting is repeated until a compromise between DC offset rejection and image rejection is achieved"* and/or *"the compromise is reached when the DC offset rejection is within acceptable tolerances and image rejection meets minimum pre-specified requirements"* as recited by claim 1. Holden does not teach or suggest these missing features of claim 1 nor does the Office Action dated October 16, 2008 (herein "Office Action") allege that Holden teaches or suggests these missing features of claim 1; therefore, the combination of Kunieda and Holden does not render claim 1 obvious.

Kunieda discloses a "receiving circuit with its local oscillation frequency compensated which is used for demodulating a coded orthogonal frequency division multiplex modulation signal." Kunieda, col. 1, lines 7-10. As shown in FIG. 1 of Kunieda, the receiving circuit includes "a filtering and frequency conversion processing circuit 102 for affecting a filtering processing to [a] received input signal [100] and frequency converting the filter transmitted with [a] local oscillation signal 109a for outputting an intermediate frequency signal IF, [and] an orthogonal signal separating

circuit 103 for separating the intermediate frequency into in-phase and quadrature-phase signals, i.e., complex baseband signals." Kunieda, col. 5, lines 26-33. More specifically,

The filtering and frequency conversion processing circuit (frequency conversion circuit) 102 responsive to the local oscillation signal, frequency converts the transmitted signal into an intermediate frequency signal. The orthogonal signal separation circuit 103 separates the intermediate frequency signal into in-phase I and quadrature-phase components Q.

Kunieda, col. 6, lines 61-67.

The receiving circuit of Kunieda additionally includes "a complex FFT (fast Fourier transform) processing circuit 104... for affecting complex FFT processing to the complex baseband signals to output a set of information represented by respective carriers every one symbol period." Kunieda, col. 5, lines 33-37. More specifically, the "complex FFT conversion circuit 104 affects the complex FFT conversion processing to the in-phase and quadrature-phase components and outputs conversion signals to be decoded arranged in a frequency base." Kunieda, col. 6, line 67 through col. 7, line 4.

The receiving circuit of Kunieda further includes "[a]n electric power measuring circuit 105 [to measure] electric powers of respective frequency components corresponding to multiplexed sub-carriers (multi-carriers) from the complex FFT processing circuit 104." Kunieda, col. 5, lines 37-41. More specifically, the "electric power measuring circuit 105 measures electric powers of the conversion signals." Kunieda, col. 7, lines 4-5.

The receiving circuit of Kunieda yet further includes "a center frequency prediction circuit 107 [to predict] a center frequency of the plurality of carriers from the result of measuring the electric powers of respective frequency components from the electric power measuring circuit 105 and for generating a frequency error signal, i.e., [a]

frequency control signal 107a, from the predicted center frequency." Kunieda, col. 5, lines 41-46. More specifically, the "center frequency prediction circuit 107 predicts the center frequency fcs of the multiplexed sub-carriers from the frequency distribution 202 of the electric powers detected by the electric power measuring circuit 105 and generates the frequency control signal 107a in accordance with the predicted center frequency." Kunieda, col. 7, lines 5-11. The frequency control signal 107a "is supplied to the local oscillator 109 to control the local oscillation frequency." Kunieda, col. 5, lines 55-56. As a result, the "local oscillator 109 generates the local oscillation signal 109a so as to reduce the detected frequency error between the oscillation frequency and the predicted frequency." Kunieda, col. 7, lines 11-14.

However, claim 1 recites "*at least the features of "measuring image rejection and DC offset rejection of the filtered signal", "the filtering, measuring and adjusting is repeated until a compromise between DC offset rejection and image rejection is achieved" and/or "the compromise is reached when the DC offset rejection is within acceptable tolerances and image rejection meets minimum pre-specified requirements."*" One of the components of the receiving circuit of Kunieda "measur[e] image rejection and DC offset rejection" as recited by claim 1. The receiving circuit of Kunieda only measures electric powers of the frequency components to predict the center frequency fcs of the multiplexed sub-carriers.

Further, Kunieda is silent regarding repeating filtering, measuring and adjusting "*until a **compromise** between DC offset rejection and image rejection is achieved" when "the **compromise** is reached when the DC offset rejection is within acceptable tolerances*

and image rejection meets minimum pre-specified requirements" as recited by claim 1.
claim 1 (emphasis added).

In summary, Kunieda does not teach or suggest at least the features of *"measuring image rejection and DC offset rejection of the filtered signal", "the filtering, measuring and adjusting is repeated until a compromise between DC offset rejection and image rejection is achieved"* and/or *"the compromise is reached when the DC offset rejection is within acceptable tolerances and image rejection meets minimum pre-specified requirements"* as recited by claim 1. Holden does not teach or suggest these missing features of claim 1 nor does the Office Action allege that Holden teaches or suggests these missing features of claim 1; therefore, the combination of Kunieda and Holden does not render claim 1 obvious. Accordingly, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

The combination of Kunieda and Holden does not teach or suggest each and every feature of claims 7 and 8. For example, as discussed above in regards to claim 1, the combination of Kunieda and Holden does not teach or suggest at least the features of *"means for measuring image rejection and DC offset rejection of the filtered signal", "the filtering, measuring and adjusting is repeated until a compromise between DC offset rejection and image rejection is achieved", and/or "the compromise is reached when the DC offset rejection is within acceptable tolerances and image rejection meets minimum pre-specified requirements"* as recited by claim 7 and at least the features of *"at least one measurement circuit, communicatively coupled to the filter, capable of measuring image rejection and DC offset rejection of the filtered signal", "the bandpass filter and at least one measurement circuit continue to filter, measure and adjust the center frequency until*

a compromise between DC offset rejection and image rejection is achieved", and/or "the compromise is reached when the DC offset rejection is within acceptable tolerances and image rejection meets minimum pre-specified requirements" as recited by claim 8.

Holden does not teach or suggest these missing features of claims 7 and 8 nor does the Office Action allege that Holden teaches or suggests these missing features of claims 7 and 8; therefore, the combination of Kunieda and Holden does not render claims 7 and 8 obvious. Accordingly, Applicant respectfully requests that the rejection of claims 7 and 8 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Claims 2, 3, 9, and 10

Claims 2, 3, 9, and 10 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kunieda in view of Holden and in further in view of United States Patent No. 6,441,682 to Vinn et al. (herein "Vinn"). Applicant respectfully traverses the rejection and provides the following arguments to support patentability.

As discussed above, the combination of Kunieda and Holden does not teach or suggest each and every feature of claims 1 and 8. Vinn does not provide the missing teachings or suggestions with respect to claims 1 and 8 nor does the Office Action allege that Vinn provides the missing teachings or suggestions with respect to claim 1 to render claims 1 and 8 obvious. Dependent claims 2, 3, 9, and 10 are likewise not rendered obvious by the combination of Kunieda, Holden, and Vinn for the same reasons as claims 1 and 8 from which they respectively depend and further in view of their own respective features. Accordingly, Applicant respectfully requests that the rejection of claims 2, 3, 9, and 10 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Allowed Claims

Applicant thanks the Examiner for indicating the allowability of claims 4 and 11 in the Office Action.


Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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